

Burlington Northern Livingston Shop Complex

January 2020

Facility History

The Montana Department of Environmental Quality (DEQ) is issuing this update to keep you informed about the investigation and cleanup of contamination at the Burlington Northern Livingston Shop Complex State Superfund Facility.

The Facility includes an active rail yard for repair and maintenance operated by Montana Rail Link (MRL). Previous rail yard operations resulted in soil and groundwater contamination, including chlorinated solvents, petroleum, lead, asbestos, and other compounds.

In September 2001, the DEQ issued a formal Record of Decision (ROD) that required cleanup actions and additional investigations. Based on DEQ's requirements, the BNSF Railway Company (BNSF), which owns the Facility, continues to investigate contamination and develop cleanup strategies at the Facility.

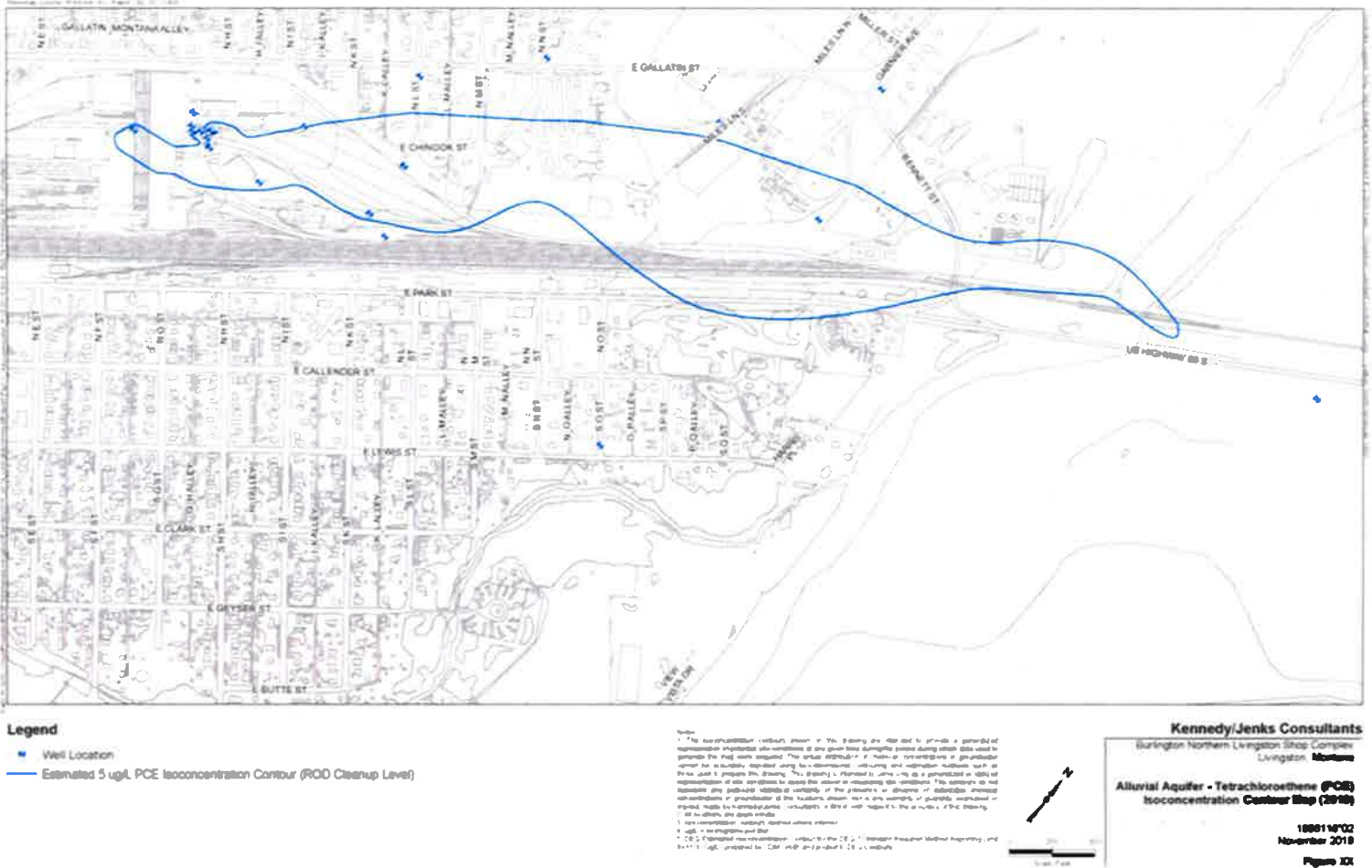
C&P Packing Property nearing completion

The BNSF Railway Company (BNSF) has completed the testing of materials at the C&P Packing Property. All soils found to contain any chemical above DEQ's cleanup level have been removed. Those soils were sent off-site for disposal in an approved facility. BNSF has submitted a report to DEQ for review which contains all test result information collected to date. DEQ is in the final stages of approving that document. Once approved, the area will be available for re-use as a commercial or industrial property.

Recent bedrock groundwater treatment showing promise

The BNSF Railway Company (BNSF) is continuing to test the effectiveness of bacteria to break down pollutants trapped in the bedrock aquifer under the Facility. The bedrock is contaminated with high levels of PCE (tetrachloroethylene) – a volatile organic compound used as a metal degreaser. The toxins came from solvents used in the rail yard that sank through the gravel aquifer into the bedrock below. The contamination was discovered through groundwater testing required by the DEQ and carried out by BNSF.

BNSF has been reporting the results from the treatment, which is showing that PCE concentrations in the bedrock aquifer are reduced by the bacteria. BNSF is continuing injections to support the treatment and are regularly testing the groundwater and reporting the results to DEQ. Once enough data are collected, the system will be evaluated as a potential long-term solution.



Expansion of groundwater treatment for solvents

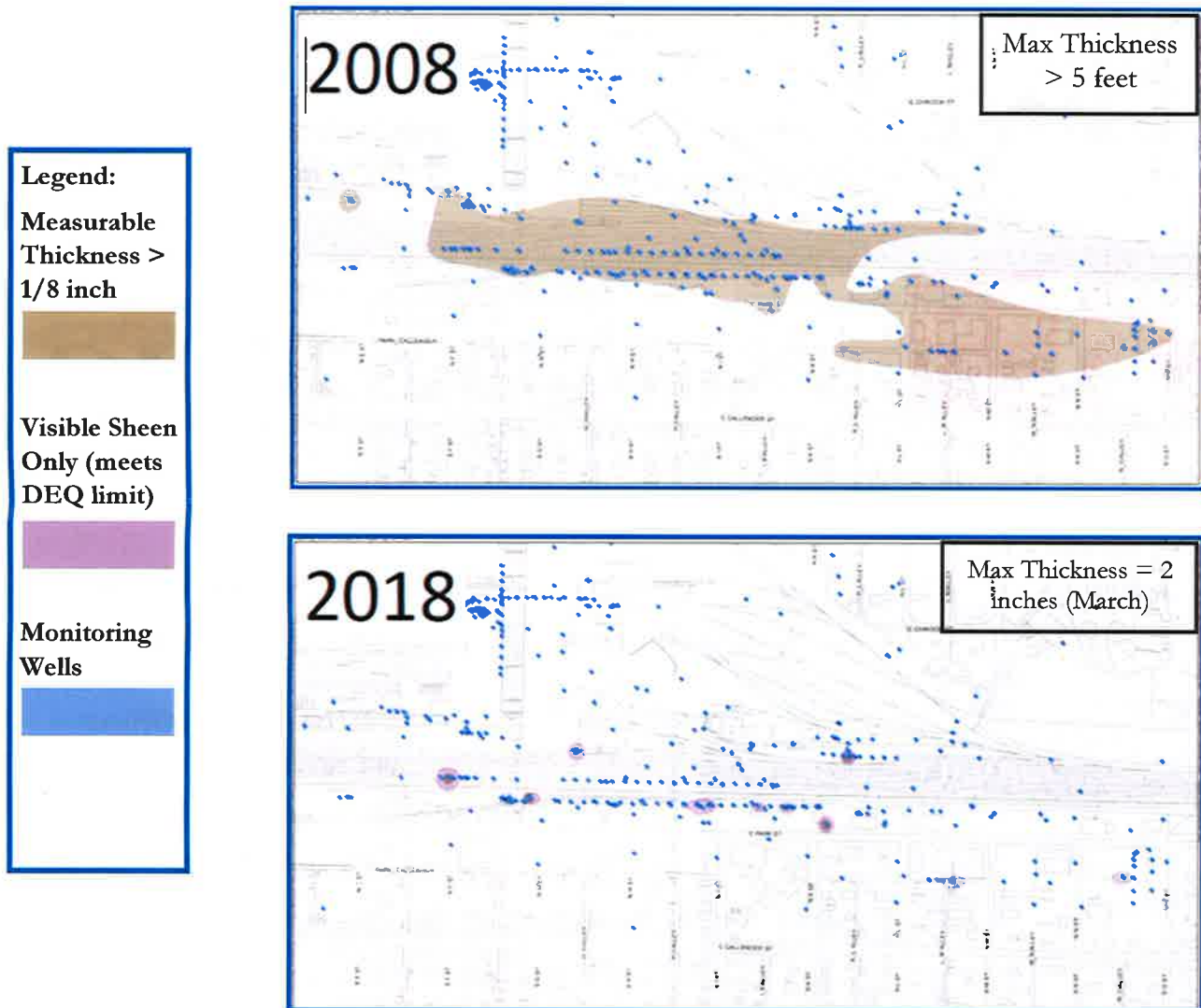
The BNSF Railway Company (BNSF) installed an Air Sparge / Soil Vapor Extraction (AS/SVE) system near the center of the railyard. This system injects air into the groundwater, and the resulting air bubbles up through the groundwater, stripping PCE as they rise. A vacuum system then captures the PCE and removes it using activated carbon filters. This system is showing that PCE in groundwater immediately upstream of the system is higher than groundwater immediately downstream. This demonstrates the AS/SVE system indeed removes enough PCE to lower the concentrations found in the groundwater.

BNSF has proposed, and DEQ has approved, the addition of a second system toward the east end of the railyard where high concentration of PCE have been found. This system will be in an area with even higher PCE concentrations than the current system, so it is expected it will more effective- removing even greater amounts of PCE from the groundwater.

BNSF has begun preliminary work on the system and hopes to have it operational in 2020.

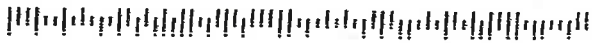
Petroleum cleanup data demonstrates significant progress

Petroleum, including diesel fuel, was discovered in soils and groundwater. At one point, enough of the chemical was present such that layers of liquid product were floating on the top of the groundwater. BNSF operated a recovery system to extract as much of the petroleum layer as practical and that portion of the operation is complete. The remaining petroleum has been treated by bioventing (injection of air into the soil above the groundwater). Together, the thickness of the layer, and the extent of spread of the layer have been nearly eliminated. The following figures show the size of plume in 2008 versus its reduced size in 2018.



What's next?

- DEQ will determine additional actions needed to address bedrock aquifer contamination beneath the rail yard.
- DEQ will continue to require BNSF to monitor the remaining petroleum in the groundwater, and to continue to treat petroleum in subsurface soils with the existing bioventing system, as needed.
- BNSF is installing a new Air Sparge / Soil Vapor Extraction (AS/SVE) system near a source of PCE in groundwater. This is the same treatment being applied successfully east of the locomotive shop.
- DEQ will evaluate the reports submitted for the API Separator Ponds and the Cinder Pile and determine whether these require any additional actions.



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Public Meeting

Thursday, January 23, 2020

7:00 pm

Community Room, City/ County Building

414 East Callender St.

Livingston, Montana

DEQ will share information about recently completed work at the Facility, including a brief overview of the chlorinated groundwater plume treatment, the petroleum plume treatment, and details on the next steps. DEQ will also answer questions from the public.

DEQ will make reasonable accommodations for persons with disabilities who wish to participate. If you require an accommodation, please contact Autumn Daniels at 406-444-6591 or adaniels2@mt.gov at least three days before the meeting.

Questions? Concerns?

Eric Woodland, DEQ Project Officer

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1-800-246-8198 (Superfund Hotline)

Eric.Woodland@MT.gov

Information Located At:

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<http://deq.mt.gov/Land/statesuperfund/bnlivingston>

